

CALIFORNIA ENERGY COMMISSION
Load Curtailment Systems
Pacific Gas & Electric Project Summary

Project Description:

Between September of 2000 and July of 2001, Pacific Gas & Electric (PG&E) recruited over 100 medium and large customers to install communication and demand responsive controls. Participating customers ranged from automobile manufacturing plants to community colleges. Over 80% of the customers had connected peak load in excess of 2000 kilowatts per customer.

The project provided cash assistance for the installation of hardware and software that either manually or automatically reduced on site peak load within 15 minutes of an emergency signal from PG&E and/or the California Independent System Operator. Project funds were used to:

- Recruit customers,
- Install necessary interval metering and communications hardware and software, and
- Conduct a pilot test to measure the level of peak savings achieved for all participating customers.

Participating customers received access to a Web based tool called Interact, which allows them to:

- Access their hourly energy usage profiles,
- Estimate the level of load reductions and associated payments achieved after a curtailment request, and
- Get feedback over the Internet on the actual level of load drops achieved by specific curtailment actions taken at their building.

The contractor recruited over 55 megawatts of potential load relief from customers. The pilot test triggered in June of 2001 validated peak savings of 34.6 megawatts.

Funding Summary:

The project cost was \$1,420,950. Roughly 41% of project funds were used for customer recruiting, marketing and training, 23% for metering and communications hardware, 15% for initial program and network development, and the balance for system reporting, operations and verification of peaks savings during the pilot test.

Project Results:

Project peak savings of 34.6 megawatts were independently confirmed by Nexant Inc. The total cost of achieving this peak savings capability was \$41 per kilowatt, roughly ten times less expensive than the cost of building a peak generation plant. Interested customers with an additional 20 megawatts of load reduction capability were unable to participate as a result of CPUC decisions disqualifying Direct Access customers from participation in late 2001.

Lessons Learned:

Customers reported high levels of satisfaction with their new ability to monitor their own energy usage in real time. Load reductions achieved through voluntary participation in the PG&E program were initially quite high in June of 2001 but tailed off to roughly 70% of the peak load reduction capabilities as customers grew weary of the energy crisis. Customers did not find the Web-based training offered an effective medium for use in teaching them how to use the Interact energy software, indicating a preference for site-based training.

Contact Information

PG&E

Del Evans, 415.973.4943

California Energy Commission

Michael Messenger, 916.654.4774